



Artificial-Quartz Slab Factory

Complete Turnkey Business Proposal



Made-in-China supplier reference: real artificial-quartz slab factory equipment.

bankable study investment gate	confirmed feedstock supply gate	EPC scope delivery gate	quality laboratory release gate
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Prepared for investment planning in Afghanistan and regional export markets. Final specifications, pricing, civil works, and utility loads require supplier quotation and site survey.

Executive Summary

Strategic engineered-quartz slab production that grades silica/quartz aggregate, doses resin and pigments, vacuum-vibrocompresses slabs, cures, calibrates, polishes, inspects and packs decorative surfaces for kitchens and interiors.

Why this project fits Afghanistan

- This is a strategic plant, not a low-entry equipment package.
- Bankable feedstock, utility, permit, market, EPC and financing evidence is required before selection.
- Operate only with an independent laboratory, defined quality release and preventive-maintenance program.

Sanaatchi delivery scope

- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning
- International logistics, customs documentation, operator training, spare parts, and after-sales support

Recommended configuration

Develop only after verified high-purity quartz supply, resin and pigment sourcing, worker chemical-safety controls, stable power, water and dust control, slab-market demand, fabrication-network capability and an experienced engineered-stone EPC partner are confirmed.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Engineered quartz slabs	Slab size, thickness, quartz grading, resin system, colour/design, flexural performance, water absorption, polish, defect limit and packing	Kitchen fabricators, countertop workshops, developers, hotels, bathroom specialists, distributors and interior contractors

Final capacity, process, resource quality, utilities, permit conditions, emissions, acceptance test and commercial terms require independent engineering review before any order.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Quartz crushing, grading and storage	Prepares controlled aggregate blend	Purity and particle-size curve
2	Resin/pigment dosing and mixing	Creates slab formulation	Resin ratio and colour
3	Vacuum vibrocompression press	Forms dense slab	Pressure, vacuum and thickness
4	Curing/conditioning system	Stabilises engineered stone	Temperature and cure
5	Calibration, polishing and inspection	Releases saleable slabs	Flatness, gloss and defects

Equipment models are indicative and will be matched to the selected capacity, local raw-material tests, available utilities, and preferred automation level.

Reference Equipment Gallery



Made-in-China supplier reference: real artificial-quartz slab factory equipment.



Made-in-China supplier reference: second real machine configuration for artificial-quartz slab factory.

Images are supplier references for configuration discussion; final equipment appearance and model may differ.

Plant, Raw Materials & Utility Requirements

Raw materials

- Validated quartz/silica grades, polyester or alternative engineered-stone resin, pigments, catalyst, backing/mesh where used, diamond tools, polishing abrasives, packaging, water-treatment media and laboratory consumables

Utilities & infrastructure

- Bankable electricity/fuel/water plans, process cooling and treatment, plant fire safety, laboratory, covered stores and qualified operation team
- Environmental permits, emissions control, waste route, maintenance workshop, critical spares and site-specific safety systems

Quality, safety and environmental controls

- Verify quartz chemistry, resin system, worker exposure controls, electricity, water, dust extraction, buyer slab samples, fabrication and warranty requirements before contracting
- Control aggregate grading, resin dose, pigment dispersion, vacuum, press cycle, slab thickness, cure, flatness, polish, pinholes, colour and crack resistance
- Test flexural strength, water absorption, thickness, flatness, gloss, colour consistency, stain/chemical resistance and packing/handling performance

A final factory layout must reserve safe forklift routes, maintenance clearances, raw-material segregation, finished-goods storage, fire protection, ventilation, and future expansion space.

Indicative Investment & Implementation Plan

LOW-ENTRY CONFIGURATION

Artificial quartz slabs demand precise aggregate/resin control and safe finishing. A slab press alone does not create a bankable countertop business without fabrication partners and design demand.

Component	Indicative range	Notes
Quartz preparation, batching and mixing	US\$12m-40m	Aggregate and colour systems
Vacuum press, curing and slab handling	US\$22m-75m	Press size and output
Calibration, polishing, safety and utilities	US\$16m-55m	Dust, water and quality scope
Indicative strategic project total	US\$50m-170m	Quarry, land, finance and working capital excluded

Implementation sequence

Phase 1	2-5 weeks	Confirm product specification, representative raw material, buyer, capacity, site and utilities
Phase 2	3-7 weeks	Run supplier trials with the buyer material and freeze the balanced machine, tooling and utility scope
Phase 3	8-22 weeks	Manufacture or refurbish, inspect, document and ship the contracted equipment
Phase 4	3-12 weeks	Install, commission, train operators and pass material-specific acceptance tests

Ranges are planning targets for a low-cost entry configuration, exclude land, and remain subject to confirmed capacity, supplier quotation, freight, duties, exchange rates and site conditions.

Next Steps & Contact Information

Recommended next steps

- Confirm target products, hourly output, and packaging formats
- Test representative raw materials and document quality requirements
- Complete site survey covering electricity, water, fuel, drainage, roads, and warehouse space
- Request comparable technical and commercial quotations from shortlisted suppliers
- Finalize financing, logistics, installation, training, and spare-parts plan

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Research and image references

- marble-quartz-countertops
- stone-coated-metal-roofing-tiles